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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,986	11/25/2003	Yasuhiro Matsumoto	101175-00039	3370

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EXAMINER

THOMAS, ERIC W

ART UNIT PAPER NUMBER

2831

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

SA

<b>Office Action Summary</b>	<b>Application No.</b> 10/720,986	<b>Applicant(s)</b> MATSUMOTO ET AL.	
	<b>Examiner</b> Eric W Thomas	<b>Art Unit</b> 2831	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Applicant uses "consists" in the abstract.

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

3. Claims 1-2, and 6 are objected to because of the following informalities:

Claim 1, line 9, the limitation, "said electrolyte element" is confusing. It is suggested to applicant to change this limitation as –said electrode [electrolyte] element-

-.

Claim 2, line 3, the limitation, "said electrolyte element" is confusing. It is suggested to applicant to change this limitation as –said electrode [electrolyte] element–.

Claim 6 line 3, change, "using" to –of--.

Appropriate correction is required.

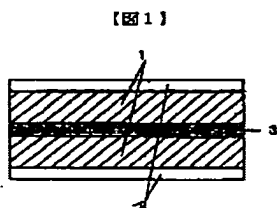
***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ue et al. (JP 2000-331887) in view of Ue et al. (JP 2000-311839) and Watanabe et al. (US 6,459,564).



Ue et al. disclose in fig. 1, an electric double layer capacitor comprising an electrode element consisting of a separator (3) and a pair of electrodes (1) disposed opposite to each other with the separator interposed therebetween, said electrode element being impregnated with a nonaqueous electrolyte solution, wherein the nonaqueous electrolyte solution is prepared by dissolving a quaternary ammonium salt in a cyclic carbonate, and the impurities contained in the nonaqueous electrode solution impregnated into the electrode element comprise 30 ppm or less of glycols.

Ue et al. disclose the claimed invention except for the nonaqueous electrolyte solution comprise 30 ppm or less of primary alcohols and less than 20 ppm of tertiary amines.

Ue et al. ('839) teach an improved electrolytic solution comprising less than 20 ppm of tertiary amines.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Ue et al. ('887) by forming the electrolyte (salt) to contain less than 20 ppm of tertiary amines as taught by Ue et al. ('839), since such a modification would suppress the reduction of the withstand voltage and degradation of the capacity of the electrical double layer capacitor.

Watanabe et al. teach an improvement in an electrolyte by reducing the amount of water and alcohol impurities in a cyclic carbonate (propylene carbonate), the content

Art Unit: 2831

of alcohol impurities being less than 30 ppm or less (see col. 5, lines 1-41). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the electrolyte of Ue et al. having a primary alcohol impurity of less than 30 ppm or less as taught by Watanabe et al, since such a modification would increase the cycle life and capacitance and improve the self-discharge at high temperatures.

Regarding claim 2, Watanabe et al. teach that the water content in the nonaqueous electrolyte solution impregnated in the electrode is 50 ppm or less (see col. 5 lines 39-40).

Regarding claim 3, Ue et al. ('887) disclose the quaternary ammonium salt is a triethylmethyammonium tetrafluoroborate.

Regarding claim 4, Ue et al. ('887) disclose the cyclic carbonate is propylene carbonate.

Regarding claim 5, Ue et al. ('887) disclose the nonaqueous electrolyte solution is prepared by dissolving triethylmethyammonium tetrafluoroborate in propylene carbonate in a concentration ranging from 0.1 to 2.5 mol/liter (paragraph 19).

Regarding claim 6, Ue et al. ('887) disclose the electrode <sup>is</sup> ~~is~~ a polarizable electrode composed of an activated carbon. -CT 7/12/17

***Conclusion***

In order to ensure full consideration of **any amendments, affidavits, or declaration, or other documents as evidence of patentability, such documents must be submitted in response to this Office action.** Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR 1. 116 which will be strictly enforced.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6,304,426 – discloses an electric double layer capacitor having a similar chemical composition as the present invention.

6,414,837 -- discloses an electric double layer capacitor having a similar chemical composition as the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric W Thomas whose telephone number is 571-272-1985. The examiner can normally be reached on M,Tu,Sat 9 am - 9:30 pm; W, Th, F 6 pm -10:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2831

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



7/7/04

Eric W Thomas  
Examiner  
Art Unit 2831

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